

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/36975

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07K 5/00, 16/00; A61K 39/395; C12N 15/00
US CL : 530/350, 387.3, 388.8; 424/134.1, 155.1; 435/69.7

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 530/350, 387.3, 388.8; 424/134.1, 155.1; 435/69.7

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WEN et al. A Human Placental cDNA Clone that Encodes Nonhistone Chromosomal Protein HMG-1. Nucleic Acids Research. 1989, Vol. 17, No. 3, pages 1197-1213, see Figure 6.	1-5.
Y		7-9.
Y	LODE et al. Targeted Cytokines for Cancer Therapy. Immunologic Research. 2000, Vol. 21, No. 2-3, pages 279-288, see pages 280-281.	10-22, 24-26, 28-35, 37-39, 41-45.
Y	CZURA et al. Dual Roles for HMGB1: DNA Binding and Cytokine. Journal of Endotoxin Research. 2001, Vol. 7, No. 4, pages 315-321, see entire document, particularly Table 1 and pages 318-319.	10-22, 24-26, 28-35, 37-39, 41-45.
Y	ANDERSSON et al. High Mobility Group I Protein (HMG-1) Stimulates Proinflammatory Cytokine Synthesis in Human Monocytes. Journal of Experimental Medicine. August 2000, Vol. 192, No. 4, pages 565-570, see entire document, particularly page 569.	10-22, 24-26, 28-35, 37-39, 41-45.
Y	US 6,649,172 B2 (JOHNSON) 12 December 2001 (12.12.2001), see column 41.	7-9, 24-26, 37-39.

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

09 July 2004 (09.07.2004)

Date of mailing of the international search report

02 AUG 2004

Name and mailing address of the ISA/US

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

Continuation of B. FIELDS SEARCHED Item 3:

WEST, Medline, Biosis, cancerlit, biotechno, embase, caplus.

Search terms: HMGB or high mobility group box, HMG-1, immunostimulant, adjuvant, CpG, monophosphoryl lipid A, cancer or tumor, inventor search.

PCT

INFORMATION CONCERNING ELECTED OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

From the INTERNATIONAL BUREAU

SAW

To:

RECEIVED

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Concord, MA 01742-9133
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year)

16 September 2004 (16.09.2004)

Applicant's or agent's file reference

3268.1003003

IMPORTANT INFORMATION

International application No.

PCT/US2003/036975

International filing date (day/month/year)

19 November 2003 (19.11.2003)

Priority date (day/month/year)

20 November 2002 (20.11.2002)

Applicant

NORTH SHORE-LONG ISLAND JEWISH RESEARCH INSTITUTE et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

EP: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

National: BG, CA, CN, CZ, DE, JP, KP, KR, MN, NO, PL, RO, RU, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

AP: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW

EA: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

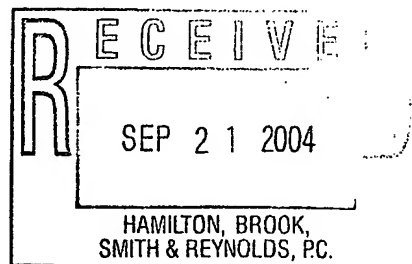
OA: BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

National: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BW, BY, BZ, CH, CO, CR, CU, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, NI, NZ, OM, PG, PH, PT, SC, SD, SE, SG, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1) (a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3) (b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.



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